

Legislative Audit Division

State of Montana



Report to the Legislature

October 1996

EDP Audit Report

Information Processing Facility and Central Applications

Each year the Legislative Audit Division audits the state's central computer facility and centralized computer applications. This report is used by financial-compliance and performance auditors and contains our conclusions and/or recommendations for improving general controls over the mainframe computer (Information Processing Facility) and application controls over the following systems:

- ▶ **State Payroll System**
- ▶ **Statewide Budgeting and Accounting System**
- ▶ **Warrant Writer System**

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96DP-06

EDP AUDITS

Electronic Data Processing (EDP) audits conducted by the Legislative Audit Division are designed to assess controls in an EDP environment. EDP controls provide assurance over the accuracy, reliability, and integrity of the information processed. From the audit work, a determination is made as to whether controls exist and are operating as designed. In performing the audit work, the audit staff uses audit standards set forth by the United States General Accounting Office.

Members of the EDP audit staff hold degrees in disciplines appropriate to the audit process. Areas of expertise include business and public administration.

EDP audits are performed as stand-alone audits of EDP controls or in conjunction with financial-compliance and/or performance audits conducted by the office. These audits are done under the oversight of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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LEGISLATIVE AUDIT DIVISION

October 1996

The Legislative Audit Committee
of the Montana State Legislature:

This is our EDP audit of controls relating to the state's centralized data processing systems operated by the Department of Administration. We reviewed the department's application controls over State Payroll, Statewide Budgeting and Accounting System (SBAS), and the Warrant Writer system. This report contains recommendations for improving controls related to the SBAS and Warrant Writer systems. Written responses to our audit recommendations are included in the back of the report.

We thank the Department of Administration for their cooperation and assistance throughout the audit.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Scott A. Seacat", with a long horizontal line extending to the right.

Scott A. Seacat
Legislative Auditor

Legislative Audit Division

EDP Audit Report

Information Processing Facility and Central Applications

Members of the audit staff involved in this audit were Brenda Bokovoy ,
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Table of Contents

	Appointed and Administrative Officials	iii
	Report Summary	S-1
Chapter I - Introduction	Introduction	1
	Organization of Report	1
	EDP Audit General and Application Controls	1
	Audit Objectives	2
	Audit Scope and Methodology	3
	Compliance	4
	Prior Audit Recommendations	4
Chapter II - General Controls	Introduction	5
	<i>Conclusion: General Controls Provide Controlled Application Processing</i>	5
	Physical Security	5
	Disaster Recovery - Background	6
	Ongoing Recovery Plans	6
Chapter III - Application Controls	Introduction	9
	Statewide Budgeting and Accounting System	9
	<i>Conclusion: SBAS Application Controls Effective and Adequate for Fiscal Year 1995-96</i>	9
	Remove Access to SBAS When no Longer Needed	10
	Document Daily Procedures Over SBAS Operations	10
	State Payroll System	11
	<i>Conclusion: State Payroll Application Controls Effective and Adequate for Fiscal Year 1995-96</i>	12
	Warrant Writer System	12
	<i>Conclusion: Warrant Writer Application Controls Effective and Adequate for Fiscal Year 1995-96</i>	12

Table of Contents

	Change State Law for Reporting Debt Write-Offs to the Budget Director	12
	Prior Audit Recommendation	13
	Automate the Offset Process for Direct Deposits	13
Agency Response	Department of Administration	17

Appointed and Administrative Officials

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John McEwen, Chief
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Donna F. Warner, Supervisor
State Payroll

Report Summary

Introduction

This EDP Audit reviewed centralized controls over the state's mainframe computer and the State Payroll, the Statewide Budgeting and Accounting System (SBAS), and the Warrant Writer computer based applications. The audit included a general control review of the state's mainframe computer and application reviews of State Payroll, SBAS, and Warrant Writer. A discussion of general and application controls is included on pages 1 and 2. The audit objectives and scope are discussed on pages 2 and 3 of the report.

General Controls

The Department of Administration's Information Processing Facility (IPF) is located in the Mitchell Building in Helena. Central data processing services include: mainframe computer processing; design, development, and maintenance support of data processing applications; and disaster recovery facilities for critical data processing applications. Processing is performed on an IBM computer operating 24 hours a day except during scheduled system maintenance.

Chapter II discusses the review of general controls. General controls are developed by management to ensure central computer operations function as intended and provide effective data processing service to users. Overall general controls specific to mainframe processing services provided controlled application processing during fiscal year 1995-96. Chapter II also discusses disaster recovery tests performed during the audit period and ongoing recovery plans.

Application Controls

The Department of Administration operates the SBAS, State Payroll, and Warrant Writer systems. These systems provide centralized accounting, payroll, and warrant writing functions to state agencies and units of the Montana University System. SBAS is an accounting system which provides financial reporting of agency transactions. State Payroll processes payroll for state agencies and units of the Montana University System. Warrant Writer creates state warrants from agency submitted transfer warrant claims processed through SBAS.

Report Summary

Chapter III discusses the review of application controls. Overall application controls ensured SBAS, State Payroll, and Warrant Writer transactions were completely and accurately processed. Audit issues address areas where the department could improve internal procedures and operations to ensure continued reliability over SBAS transaction processing. In addition to providing the status of a prior recommendation for Warrant Writer, Chapter III also includes a recommendation concerning uncollectible debt write-off reporting procedures.

Chapter I - Introduction

Introduction

This is our annual electronic data processing (EDP) audit of the state's centralized data processing systems. The audit included centralized controls over the state's mainframe computer and three computer based applications: State Payroll, Warrant Writer, and the Statewide Budgeting and Accounting System (SBAS).

The audit was conducted at the Department of Administration which maintains the state's mainframe, State Payroll, SBAS and Warrant Writer. The controls identified and tested can be relied upon by financial-compliance, performance, and EDP auditors for the fiscal year 1995-96 audit period.

Organization of Report

The report contains three chapters. Chapter I contains the introduction, background information, and audit objectives. Chapter II discusses our review of general controls applicable to the Department of Administration's Information Processing Facility. Chapter III includes our application review of the department's SBAS, State Payroll, and Warrant Writer computer applications.

EDP Audit General and Application Controls

EDP controls provide assurance over the accuracy, reliability, and integrity of the information processed. From the audit work, a determination is made as to whether controls exist and are operating as designed. A general control review includes an examination of the following controls:

Organizational - apply to the structure and management of the computing and information services facility. Specific types of organizational controls include segregation of duties, assignment of responsibilities, rotation of duties, and supervision.

Procedural - operating standards and procedures which ensure the reliability of computer processing results and protect against processing errors.

Hardware and Software - controls within the operating system software and hardware which monitor and report system error conditions.

System Development - oversight and supervisory controls imposed on development projects. Controls include feasibility studies,

Chapter I - Introduction

development, testing and implementation, documentation, and maintenance.

Physical Security - physical site controls including security over access to the computer facility, protection devices such as smoke alarms and sprinkler systems, and disaster prevention and recovery plans.

Electronic Access - controls which allow or disallow user access to electronically stored information such as data files and application programs.

A general control review provides information regarding the ability to control EDP applications. Application controls are specific to a given application or set of programs that accomplish a specific objective. Application controls consist of an examination of the following controls and objectives:

Input - Ensure all data is properly coded to machine language, all entered data is approved, and all approved data is entered.

Processing - Ensure all data input is processed as intended.

Output - All processed data is reported and properly distributed to authorized individuals.

A review of the application documentation and audit trail is also performed. Applications must operate within the general control environment in order for reliance to be placed on them.

Audit Objectives

The objectives of this EDP audit were to determine the adequacy of:

1. General controls specific to the state mainframe computer.
2. Application controls over data processed by the SBAS, State Payroll, and Warrant Writer applications.

Chapter I - Introduction

Audit Scope and Methodology

The audit was conducted in accordance with government audit standards. We compared existing general and application controls against criteria established by the American Institute of Certified Public Accountants (AICPA), United States General Accounting Office (GAO), and the EDP industry.

We reviewed the Department of Administration's general controls related to the state mainframe environment. We interviewed department personnel to gain an understanding of the hardware and software environment at the Department of Administration. We also examined documentation to supplement and confirm information obtained through interviews.

We examined procedures within the mainframe environment which ensure computer processing activities are controlled. For example, we determined if mainframe equipment is maintained in a secured area and access is limited to authorized personnel. The department provides data entry and processing services to state agencies. We reviewed department procedures which ensure data processing is completed per agency authorization.

We conducted application reviews over State Payroll, Warrant Writer, and SBAS. We interviewed employees of the Department of Administration to evaluate policies and procedures. We reviewed input, processing, and output controls for these systems. We also reviewed supporting documentation to determine if controls over data are effective as well as adequate to ensure the accuracy of data during processing phases.

Controls over centralized operations are supplemented by controls established at user agencies. We did not review controls established by user agencies.

Compliance

We determined compliance with applicable state laws and rules and Montana Operations Manual policies. Except as discussed on page 12, we found the Department of Administration to be in compliance with applicable laws, rules and state policy.

Chapter I - Introduction

Prior Audit Recommendations

Our prior audit report for fiscal year 1994-95 included four recommendations still applicable to the Department of Administration. The department concurred with each recommendation. The department implemented three recommendations and did not implement one recommendation.

The one recommendation not implemented concerns modification to the Warrant Writer System to provide for automatic offsets against direct deposits. This issue is discussed on page 13 of the report.

Chapter II - General Controls

Introduction

The department's Information Processing Facility (IPF) is located in the Mitchell Building in Helena. State employees process application programs and data stored on the mainframe through personal computers and terminals located across the state. This chapter discusses our review of management's operating procedures and controls which ensure continuous, reliable, and accurate mainframe data processing services.

The department's Information Services Division (ISD) provides data processing services for use by state agencies. Central data processing services include: mainframe computer processing; design, development, and maintenance support of data processing applications; and disaster recovery facilities for critical data processing applications. Processing is performed on an IBM computer operating 24 hours a day except during scheduled system maintenance.

Conclusion: General Controls Provide Controlled Application Processing

General controls are developed by management to ensure computer operations function as intended and provide effective data processing service to users. Overall general controls specific to mainframe processing services provided controlled application processing during fiscal year 1995-96.

Physical Security

Physical security controls provide security against accidental loss or destruction of data and program files or equipment and ensure continuous operation of application processing functions. Physical security controls include: safeguard of files, programs and documentation; physical access over the computer facility; and a plan or method to ensure continuity of operations following major destruction of files or hardware breakdown.

We reviewed existing physical controls in place at the Information Processing Facility. The department maintains computer hardware on a raised floor. Smoke alarms function properly. Air conditioning maintains controlled computer room temperature. The power supply meets computing equipment needs.

Chapter II - General Controls

The department continues to improve its ability to recover the Information Processing Facility following a disaster. The following section discusses the department's disaster recovery plan and implementation status during fiscal year 1995-96.

Disaster Recovery - Background

The department received funding from the 1991 Legislature to design and implement a contingency plan, which included a "hotsite" and the appropriate backup equipment. In February 1992, ISD established a five year contract for a backup hotsite with Weyerhaeuser Information Systems in Federal Way, Washington. The hotsite agreement provides ISD an alternative location and equipment necessary to recover mainframe computer operations. The contract also provides for annual on-site recovery testing of the central mainframe operating system and agency-owned applications.

During fiscal year 1994-95 ISD drafted a recovery plan which defines ISD personnel responsibilities, hardware and software requirements, and mainframe operating system recovery procedures. In May 1996, ISD conducted an annual recovery test. This was the fourth disaster recovery drill conducted since 1992. Agency applications included in the test were SBAS, State Payroll, SEARCHS, Title and Registration, and Driver Control systems. ISD also recovered the mainframe operating system software, telecommunications system software, and Department of Correction's applications operating on a minicomputer platform. This allowed the application users to perform processing tests at the hotsite from computer terminals in Helena.

Ongoing Recovery Plans

ISD continues to work with interested state agencies to test recovery of agency-owned applications and verify recovery procedures are reliable. Although ISD can recover agency applications and provide mainframe connection capabilities for agency-owned terminals, ISD cannot define agency application recovery priorities or personnel responsibilities. After completing the plan, ISD will provide guidance to state agencies for documenting agency application recovery procedures within the plan.

Chapter II - General Controls

Disaster recovery planning requires ongoing preparation. By establishing documented procedures, ISD significantly improves its ability to recover mainframe computing operations following a disaster. We will continue to review the status of ISD's disaster recovery plan. We also continue to review individual state agency disaster recovery procedures during financial-compliance, performance, and EDP audits.

Chapter III - Application Controls

Introduction

The Department of Administration operates the Statewide Budgeting and Accounting System (SBAS), State Payroll, and Warrant Writer systems. These systems provide centralized accounting, payroll, and warrant writing functions for state agencies and units of the Montana University System. We reviewed application controls over these systems to ensure the systems processed information as intended during fiscal year 1995-96.

Statewide Budgeting and Accounting System

The Department of Administration's Accounting Bureau operates the Statewide Budgeting and Accounting System. SBAS is an accounting system which provides budgetary control data used for agency management decisions. SBAS also provides uniform accounting and reporting for all state agencies by showing receipt, use, and disposition of public money and property in accordance with generally accepted accounting principles (GAAP).

SBAS is a combination of on-line entry and batch update. State agencies input SBAS transactions using On-line Entry & Edit (OE&E) or submit transactions to the OE&E database by remote entry. The transactions are held in a processing queue until Accounting Bureau runs a nightly job which gathers the data. SBAS edits check the data to ensure validity. If a transaction does not pass an edit, it will reject from processing and may require correction. Transactions which pass all edits are processed and posted to the SBAS database.

Conclusion: SBAS Application Controls Effective and Adequate for Fiscal Year 1995-96

We reviewed input, processing, and output controls over SBAS during fiscal year 1995-96. Overall application controls ensured SBAS transactions were completely and accurately processed. The following sections discuss areas where Accounting Bureau could improve internal procedures and operations to ensure continued reliability over SBAS transaction processing.

Chapter III - Application Controls

Remove Access to SBAS When no Longer Needed

The Department of Administration's Application Services Bureau (ASB) provides programming support to Accounting Bureau for the SBAS application. ASB programmers perform system maintenance or enhancements over SBAS upon Accounting Bureau request. Accounting Bureau authorizes programmer access to SBAS programs through Access Control Facility (ACF-2) software rules. Industry standards suggest management remove user access to production programs and data when no longer needed. ACF-2 rules over SBAS provide unnecessary access to a former ASB programmer who changed position duties one year prior to our review. The access could allow unauthorized changes to SBAS production, test, or job submission programs. For example, programs could be modified to cause improper transaction posting or unreliable management reports.

Existing procedures do not provide for automatic notification to Accounting Bureau when ASB programmers change job duties or terminate employment. Accounting Bureau could periodically review electronic access rules to identify unnecessary user access or establish an agreement with ASB for prompt notification upon changes to programmer support services and responsibilities.

Recommendation #1

We recommend the department remove user access to SBAS when no longer needed.

Document Daily Procedures Over SBAS Operations

The Accounting Bureau maintains system documentation in hard copy and electronic form, and stores copies at an offsite location. We found the Accounting Bureau should also document daily processing procedures as performed by various employees responsible for SBAS operations.

Industry guidelines suggest management document employee procedures applicable to computer system operations. Documentation should include daily SBAS job submission

Chapter III - Application Controls

procedures, update exception report processing, and online entry procedures over user control standards and the Information Core & Control forms. For example, employees submit a job each day to process agency accounting transactions. They also review transactions which fail to process and implement agency user requests for access to OE&E.

Documented procedures can ensure continuous daily operations by providing employee guidelines, instruction for backup personnel, and training for new employees. The department could include the employee procedures with existing user documentation.

Recommendation #2

We recommend the department document employee job procedures applicable to daily SBAS operations.

State Payroll System

The State Payroll System processes payroll for state agencies and selected units of the Montana University System. The system also includes personnel and position control components. These components provide information about employees or management information necessary for budgeting purposes, respectively.

The payroll component of the State Payroll System issues and tracks state of Montana employees' wage and benefit payments. Similar to SBAS, processing is completed through a combination of on-line entry and batch update. State agencies and university units input employee time information using On-line Pre-payroll, an interface to the State Payroll System. The State Payroll System retrieves and checks the data against edits to ensure validity. Payroll data which fails edits tests is corrected prior to further processing. Once all payroll data is corrected, State Payroll personnel submit a job which calculates gross pay, deductions, net pay, and leave and service adjustments. In addition, the system automatically bills state agencies for their payroll costs, updates SBAS, and prepares payroll reports.

Chapter III - Application Controls

Conclusion: State Payroll Application Controls Effective and Adequate for Fiscal Year 1995-96

The audit was limited to payroll transactions processed through the State Payroll System. Overall application controls ensured payroll transactions processed accurately and completely during fiscal year 1995-96.

Warrant Writer System

The Warrant Writer system controls creation and distribution of most state warrants and the redemption of all state warrants. The system creates state warrants from agency submitted transfer warrant claims processed through SBAS. After daily SBAS processing is completed, Warrant Writer retrieves SBAS transactions which require warrants to be written. The system accounts for state warrants issued, outstanding, and redeemed.

Conclusion: Warrant Writer Application Controls Effective and Adequate for Fiscal Year 1995-96

Overall application controls ensured Warrant Writer transactions were completely and accurately processed. The following sections discuss state compliance concerns and provide an update to a prior audit recommendation.

Change State Law for Reporting Debt Write- Offs to the Budget Director

The department's Debt Collection Unit (DCU) provides collection services to state agencies upon request. The DCU attempts to collect bad debts by offsetting state warrants, such as income tax refunds, for a period of three years. Each month, employees write-off bad debts they determine are uncollectible. During fiscal year 1995-96, the DCU wrote off uncollectible debt totaling \$1,600,138 and recovered \$2,298,983.

Section 17-4-107(2) requires the department to report write-off or cancellation of accounts receivable to the Office of Budget and Program Planning (OBPP) budget director. The department no longer reports this information to the budget director.

In 1992 the OBPP requested the Warrant Writer section (then under the State Auditor's Office) no longer report the write-off activity, since the information is available upon request. Department employees believe the OBPP no longer uses the information. However, current law requires the information be furnished to the budget director.

Chapter III - Application Controls

Recommendation # 3

We recommend the department seek legislation to remove or revise the requirement for reporting write-off or cancellation of accounts receivable to the budget director.

Prior Audit Recommendation

In the previous audit, we recommended the Department of Administration modify the Warrant Writer System to provide for automatic offsets against direct deposits. The following section summarizes the issue and the status of the prior recommendation.

Automate the Offset Process for Direct Deposits

The Bad Debts component of the Warrant Writer System withholds warrants written to the payee if that payee owes money to the state of Montana. During warrant processing, an electronic file of debtors is compared against warrant payees. If a match is identified, department personnel adjust or "offset" the warrant for the amount owed to the state of Montana. However, the Bad Debts component is unable to automatically offset state of Montana payments made by direct deposit.

Section 17-4-105(2), MCA, requires the Department of Administration to offset any amount due from the payee to the state of Montana. Although state law does not specifically address direct deposits the department could modify system programming to provide for a direct deposit offset.

Department employees manually offset approximately 300 direct deposit payments each month. This procedure requires employees adjust daily direct deposits and issue state warrants for any balance remaining following offset. They expect this figure to increase due to a growing trend toward payment by direct deposit. For example, state income tax refunds are available by direct deposit. In addition, state agencies currently pay fifty-six cents per mailed warrant or sixteen cents for each direct deposit. This savings will encourage state agencies to pay their vendors by direct deposit. The cost to automate the direct deposit offset process can be recovered by

Chapter III - Application Controls

enabling employees to more effectively process bad debt adjustments.

Although the department has not implemented our prior recommendation to automate offsets against direct deposits, it continues to seek a programming solution. We will continue to monitor the department's progress during future audits. Therefore, we make no recommendation at this time.

Agency Response

DEPARTMENT OF ADMINISTRATION
DIRECTOR'S OFFICE



MARC RACICOT, GOVERNOR

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October 7, 1996

Scott A. Seacat
Legislative Audit Division
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OCT 7 1996

Dear Scott:

We have reviewed the recommendations in the Information Processing Facility and Central Applications EDP Audit dated October 1996. Our responses follow:

Recommendation #1: We recommend the department remove user access to SBAS when no longer needed.

Response: We concur. This is our current policy. At times we have different programmers working on various SBAS projects who are given access to SBAS files for the duration of the project. All Application Services Bureau (ASB) programmers are logged and the log reports reviewed daily. Any unanticipated logging is noted and discussed with ASB. We will review the rules more frequently, especially after special projects are completed.

Recommendation #2: We recommend the department document employee job procedures applicable to daily SBAS operations.

Response: We concur. We have written procedures for the two positions primarily involved in the daily operation of SBAS. However, the procedures have not been updated for new processes implemented in the current year. Final procedures generally are not written until the process is implemented and in place for a period of time. The employee job procedures will be updated within the next two months.

Recommendation #3: We recommend the department seek legislation to remove or revise the requirement for reporting write-off or cancellation of accounts receivable to the budget director.

Response: We concur. We will incorporate the change in other debt collection legislation being proposed by the department in the next legislative session.

Page 17

Scott Seacat
October 7, 1996
Page 2

As indicated in the audit report, we continue to pursue the programming changes needed to automate offsets against direct deposit payments. Currently, this is a manual process. We will incorporate the necessary programming changes in ongoing system planning and updating.

We appreciate the opportunity to work with your staff on these issues.

Sincerely,

A handwritten signature in black ink, appearing to read "Lois Menzies". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

LOIS MENZIES
Director